A Study of User Conflicts on Sedona Area Non-motorized Trails
Red Rock Ranger District, Coconino National Forest
Final October 2014

PROJECT BACKGROUND AND METHODS

The need for this project was identified during a series of twelve monthly public meetings held in 2013 for non-motorized trail planning in the Red Rock District of the Coconino National Forest. The focus of the meetings was National Forest trail planning for the Sedona – Village of Oak Creek vicinity.

In late 2013, Great Visitor Experiences, a Tucson-based enterprise, was contracted to research trail use conflicts on the Forest Service Red Rock trail system in Sedona, AZ. Great Visitor Experiences owner Rici Peterson and associate Melanie Pierson (hereafter Consultants) conducted the project.

The Consultants reviewed notes from the 2013 meetings and other background documents related to trails planning. They also participated in an American Trails webinar focused on mitigating user conflicts on trails, gaining additional insights into the nature of trail user conflict.

They then conducted a series of telephone interviews with key stakeholders. Specific types of input are discussed in later sections, with complete data provided in appendices.

Additional research was conducted on communities in the West that have been able to mitigate trail user conflicts, to determine which, if any, management strategies may be applicable to Sedona's natural and social environment. With the help of the US Forest Service, the Consultants also posted a thread on the Forest Service's RecTalk listserv asking for input and networking assistance. Respondents advised tapping American Trails as a resource, and asked that anything learned through this project be shared with the RecTalk listserv community.

Funds for the project were limited, which affected the amount of time available for background research, the number of interviews conducted, and the number of recommendations developed.

This report contains:
- Section 1, Introduction and background
- Section 2, which defines trail user conflicts in Sedona
- Section 3, conflict themes in Sedona, with suggested remedies
- Section 4, stakeholder's suggestions for approaches, broken into three categories:
    - Education (including Community Involvement)
    - Engineering (including Signage) and
    - Enforcement
- Section 5, summarized case studies of other communities' solutions
- Section 6, additional observations
- Section 7, recommendations
- Appendices
    - Appendix A: Interview Questions
    - Appendix B: Interview Responses
    - Appendix C: Estimated Implementation Costs

Section 2: DEFINING CONFLICT

Conflict among trail users can best be understood as goal interference.[1] For example, when a trail user plans an outing, he or she has certain goals in mind, e.g., solitude, exercise, relaxation, challenge, freedom, being with friends or family, experiencing nature, or testing skills. The goals of an individual user may vary by trail and/or from one outing to the next.

Conflict arises when one trail user interferes with another user's goals. Conflicts tend to fall into three categories:

- when people feel their safety is compromised;
- when they experience degradation of the resources they enjoy or value;
- and/or when the quality of their recreational experiences are diminished.

Typical scenarios might be 1) a mountain biker out to test his skills and get a workout must repeatedly slow down to navigate around groups of hikers, leaving him frustrated and motivated to find or create better opportunities for distraction-free riding; 2) an equestrian out for a solitary ride is thrown when her horse is spooked by a mountain biker speeding past, leaving her injured and angry; or 3) a hiker is nearly struck by a fast-moving mountain biker who appears suddenly from a blind corner, leaving both parties alarmed and flustered.

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[1] Steve Sherwood, Chinook Associates, American Trails Webinar 2014 (Managing Trail User Conflicts, Part 3)

Section 3: CONFLICT THEMES in SEDONA

Conversations with stakeholders revealed several types of conflict in Sedona, which group themselves into three main categories or themes:

- Yielding to Other User Groups
  Perceptions about proper yielding etiquette vary widely. In some scenarios, existing signs conflict with common sense, causing confusion.

  For example, the standard triangle yield sign shows that a hiker going uphill on a steep slope is expected to yield to a mountain biker traveling downhill. To the uninitiated, this rule may seem contrary to widely-accepted "hill etiquette," which has downhill-bound travelers yielding to uphill-bound travelers (due to the extra effort required to stop and restart on a steep climb). On the other hand, some users suggest that hikers should step out of the way when they encounter a mountain biker, as hikers are considered more nimble.[2] This confusion poses an ongoing problem for Sedona area trail users.

- Trail Additions
  There's a general sense from survey respondents that more trails are needed to increase the functionality of the trail system in Sedona. Top priorities are introductory level mountain bike trails and connector trails.[3] Stakeholders were generally happy with Sedona's newest trail additions, although opinions vary about how the trail-addition process played out.

- Traffic Flow Strategies
  Due in part to narrow canyons and the terrain, two-way traffic sometimes creates safety conflicts between biking and hiking users. This is an issue that has been discussed at length in community meetings. Interview respondents expressed that if a policy change is needed to ameliorate traffic flow issues, a one-way traffic policy on loop trails is preferred.

  As to a solution involving alternating days for different user groups on any given trail, little to no support was expressed. That approach is working well in some other parts of the country, but it was felt that trail issues are too complex here.

Complex Problem, No One Solution

The take-away seems to be that problems with Sedona's less-than-ideal "trail user experience"—whether pedestrian, equestrian, or bicyclist—are underlain by an unusually complex set of circumstances for which there is no panacea. Differences in travel speeds, for example, make sharing a single-track trail system challenging (hikers travel at three mph or less; horses at six mph; bikes at 15-30 mph). The situation is further complicated by the strongly vertical terrain, which limits trail alignment options; historical and current use patterns; emerging national trends in trails-related recreation; tourism marketing messages, and so on.

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[2] As trail users themselves, the consultants find that—irrespective of posted rules—a sense of self-protection leads most hikers to step off the trail to let cyclists pass through.

[3] As discussed in Section 5, even non-mountain-bikers were in support of new trails that accommodate bikers too.

Section 4: USER-GENERATED SUGGESTIONS for SOLUTIONS

Eighteen individuals were contacted from local and regional trail user groups. Sixteen people responded and were interviewed between February and April 2014. The interviewees represented trail users (3), local bike/hike shop owners (4), Forest Service employees (1), individuals from Friends of the Forest (1), Verde Valley Cyclists Coalition (1), IMBA (1), and Sedona Westerners (1), and trail volunteers (4). The sampling was drawn from a pool of people who have participated in the community's trails discussions over time, including the yearlong community discussion held in 2012-2013 facilitated by the National Park Service - Rivers, Trails and Conservation Assistance Program (NPS-RTCA).

Interviewees were asked about their proposed solutions, which can be found in the following chart. Many of these suggestions echo the results of the 2012 discussion mentioned above. Many respondents pointed out that no matter how well-intentioned a particular user group may be, there will always be individuals who refuse to follow rules.

Except where noted, interviewees feel that the solutions below should be implemented by the Forest Service, given that the agency manages the land and has the official capacity to make and enforce decisions. No interviewee felt that any existing partner roles should cease;[4] everyone acknowledged that the volunteer community in Sedona is outstanding and that current activities by partner organizations should continue.

EDUCATION & COMMUNITY INVOLVEMENT	ENGINEERING/SIGNAGE	ENFORCEMENT
Evaluate and conduct widespread "yield education" campaign, including user benefits and the dangers of non-compliance.	Create good lines of sight, eliminate blind corners. Evaluate and implement proper surfacing consider trail usage levels and slope.	Bring social trail builders into line by instituting a way for the public to submit ideas for new trails. Those that pass evaluation and meet the criteria can eventually be built.
	Ensure yield signing is consistent with logistics. Improve confusing orientation at trail junctions. Add on-trail reinforcement signage ("You are on Shady Canyon Trail") to assure hikers, keep them on track.	

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[4] Two examples are Friends of the Forest, which currently provides trail maintenance, signage assistance and patrol, and Red Rock Mountain Bike Patrollers, which provides patrol assistance.

Campaign to show the dangers/effects of off-trail travel.	Set speed limits, especially in narrow areas with no room to step off trail. Plan for and place speed barriers (boulders, etc.) as an official USFS management strategy.	Cite illegal trail builders.
Incorporate interactive trail-finder technology to help more people find the trail experience that meets their criteria (the USFS has this technology at their visitor center, but it's not well-used. The commercial retailer The Hike House also offers a similar service in their store).	Design trail rating system to help users match their skills and desired experiences to appropriate trails (similar to ski run rating system).	
Via Friends of the Forest, recruit businesses to support increased and/or improved signage system	Retain current main routes as a shared, multi-use system, but add pockets or zones limited to mountain bike use only	

Section 5: CASE STUDIES of COMMUNITIES and ORGANIZATIONS

A combination of phone interviews and web research was used to learn more about the following communities and/or organizations.

- Moab, Utah
  Vast acreage of public lands allows for the separation of uses into different areas, particularly motorized versus non-motorized uses. Not much hiker vs. mountain biker conflict exists. Hikers have a lot of acres to access, and tend to stay away from mountain bike trails. Bike trails and areas are very well signed. The development of bike trails occurs via a transparent process between land manager and mountain bikers.

- Park City, Utah
  Park City is a mountain biker's playground, and the only destination in the world to achieve the International Mountain Biking Association's Gold Level Ride Center award to date. It has a vast network of mountain bike parks and trails. Ski resorts cater to the mountain biking community by continuing lift service year round.

- Phil's World—Cortez, CO
  Located east of Cortez, this nicknamed area is a combination of state trust and BLM land. A 29-mile network of single-track trails was built by and for mountain bikers over the last decade[5]. The trails are all designed by trained mountain bike trail builders, and then reviewed by archaeologists. The key to Phil's World is that the trails are all one way, and consist of a network of stacked loops.

- Evergreen Mountain Bike Alliance—Washington State
  This large organization focuses on advocacy for access and funding, promotes the sport, and educates on safety. Volunteers work to protect, maintain and build single and shared use trails and mountain bike parks. They are persistent about working with land managers to ensure mountain biker needs are met.

- Trail Solutions—Trail Design and Build arm of International Mountain Biking Association
  "You don't need mountains or beautiful landscapes to make a trail really sing." – Joey Kline, Trail Solutions

  The solution he recommended for Sedona, based on what appears to be working globally, is a shared use trail system with pockets of single use and/or single direction trails. The model city suggested for Sedona to consider is Draper City, UT. This southern suburb of Salt Lake City is up against the Wasatch Plateau. The town took ownership of the issue, acquired a large open space area, and has created a network of trails for all user groups. They have a 3.5-mile family friendly "flow" trail, and a legal downhill gravity trail. An equestrian-only trail provides access to Wilderness trails. "Everybody gets a piece of the pie."

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[5] Recreation permits are required on AZ State Trust Lands.

Section 6: ADDITIONAL OBSERVATIONS

Balance in Representation

Sedona has always been one of America's best-loved hiking destinations. Indeed, between 80 and 90% of Sedona-area trail users are hikers (USFS encounter data 2013). Nevertheless, some trails in Sedona are now experiencing as much as 60% mountain bike traffic. Nationwide, mountain biking is a growing trend and a growing industry.

Every time a new form of recreational technology emerges, user demand and advocacy tend to rise. The accommodation of America's changing recreational needs has long been a focus for the US Forest Service and other agencies, and mountain biking is no exception.

However, it is important to recognize that advocacy can often be driven by the recreation industry. This in itself is not an inherent problem. However, communities and agencies should be aware that an imbalance in advocacy can occur when the "more expensive" sport is more highly represented simply because it is better funded. In such cases, counting voices "for" or "against" a program or policy does not necessarily translate to a fair and representative sampling of the people's will.

The Consultants were surprised at how many interviewed hikers were in support of developing new trails specifically for mountain bikers. Though this would not solve all user conflicts on existing trails, it would provide a destination for bikers seeking an uninterrupted trail experience and/or an exhilarating aerobic workout.

Local Problem, Local Solutions

The Consultants noted that respondents believe that local users, not visitors, cause most of the conflicts. The Consultants sensed a strong sense of ownership and, to some degree, entitlement in the local trail user community. The good news is that a sense of ownership can be a valuable asset, which, properly channeled, can lead to constructive solutions.

The consultants invite the Sedona community to consider the benefits of taking ownership of the problem, rather than relying on the Forest Service to be responsible for every solution.

Practicality Considerations

Be aware that the proposed solutions offered by stakeholders vary in their practicality. Some may not be supported by federal public mandates, for example, or run the risk of being challenged in a court of law.

Cooler Heads

It was apparent that emotions are running high in the community. The value users place on Sedona's trails is obvious. This seems to be an overheated issue in an over-loved area.

Regardless of relative advocacy levels, all user groups in Sedona can and should make every effort to recognize, understand and respect the needs of other user groups. Sedona's trails are a community asset that supports not only its business interests, but the day-to-day quality of life of its private citizens.

Recognizing one another's shared values, and consciously adopting a give-and-take attitude toward compromise, will be critical to the development of a lasting solution—and to lasting harmony in the community.

Section 7: RECOMMENDATIONS for NEXT STEPS

- Share this report with stakeholders.

- Stakeholders want more transparency in trail development. The Forest Service should consider establishing a transparent process for members of the public to suggest trails for acceptance into the Forest Service trail system, including evaluating suggestions, conducting clearances, and building and maintaining said trails.

- To foster understanding, tolerance, and respect between user groups, the community should consider the formation of an entity modeled along the lines of Moab's TrailMix group. This entity would bring together different user groups for the purpose of discussing commonly-shared values, user-groups' specific experiential goals, and working together to accomplish them. As part of the program, include a monthly outdoor mixer activity such as trail evaluation and trail maintenance. This is not an effort that the Forest Service can or should lead; however, they have indicated they would be very pleased to participate and lend support.

- Keep the main trail system, adding pockets or zones of mountain bike-specific, one-way traffic where they are needed. The US Forest Service has already implemented this idea—including one-way travel policies and signs warning hikers about fast-moving bicyclists—along the newly-adopted "Hogs" area mixed-use trails.

- Speed limits would be helpful, but budgets and terrain make them extremely challenging to enforce. Instead, consider an engineering solution that builds in traffic-calming techniques.

- Consider working with qualified trail designers to develop a few mountain bike-specific areas and zones suited to high-speed, aerobic cycling experiences.

- Etiquette Campaign: Sedona hosts an estimated 1.4 million visitors annually, and outdoor recreation is the heartbeat of its economy. With nearly half of visitors using trails, it makes good business sense to protect Sedona's natural resources and trail user experiences. The Consultants suggest a campaign aimed at fostering a community-wide trail ethic of mutual respect and resource-sharing. It should take the form of guidelines for trail etiquette that include realistic behavioral protocols, and be conveyed by an ongoing, branded, multi-channel, community-wide communication program, titled perhaps "Play Nice Sedona." The underlying take-home message should be that everyone in Sedona, resident and visitor alike, benefits from conscious, considerate on-trail behavior. Etiquette and behavioral guidelines should be framed by the "TrailMix" style cooperative to ensure an even-handed, realistic system that will meet user needs.

  Because businesses will realize direct benefits from both the short term and long term effects of such a campaign, it is suggested that the Chamber of Commerce consider leading this effort as a mitigation program.

  The communication campaign should employ a consistent logo, tagline, and message hierarchy, and engage visitors at all stages, from vacation planning through the return home. Multiple channels of communication should be used, including web-based media; social media; visitor publications; "host" training for retail, hospitality, and outfitter guide staff; store and trailhead posters; table tents; rack cards; TV and radio PSAs; bus stop posters; vehicle wrap advertising; and app integration where possible.

Commercially-sponsored sidewalk trail info kiosks can be an effective tool as well; they also can benefit the sponsoring business. Small, attractive structures, in the style of a trailhead kiosk, can be placed on the sidewalk adjacent to trails-related businesses. They can offer quality trip-planning information for all trail user groups, with "Play Nice" messaging woven throughout.

Estimated costs of proposed campaign elements are provided in Appendix C.

Section 8: Acknowledgements

The contractors wish to thank Sedona-based US Forest Service staff and participants who agreed to be interviewed for this study (including case study participants).

We also thank NPS-RTCA for the funding to conduct and complete this report.

Finally, a nod of gratitude to Julie Ray Creative of Tucson, AZ for their courtesy in providing estimated implementation costs for recommended next steps.

APPENDIX A: Interview Questions

1. What's the top concern about trails and trail users in the Sedona area?

    a. (if needed) What might be one example of a user conflict on a trail?

2. As a trail user yourself, what do you need to have a successful trail experience?

3. As a [hiker/equestrian/biker], what solution do you think the non-[hikers/equestrians/bikers] might support?

    a. Who do you think should be implementing that solution?

4. What is your experience with commercial activity on the trails (mountain bike, hiking tours, etc), and does that activity have any impact on you?

5. What is working now? What is not working? Why?

6. Would Sedona be better off with single-use or multi-use trails?

7. What would be the ideal outcomes for trails around Sedona and Village of Oak Creek?

8. Do you know of another community that has experienced success addressing user conflict on trails? Or perhaps has tried something that didn't succeed?

APPENDIX B: Interview Responses

Top Concern	Ideal Trail Experience	Supported Solutions	Commercial Activity	What Is Working	What's Not Working	Single or Multi-Use?	Ideal Outcomes
▪ More beginner mountain bike trails	▪ Physical challenge, rock features, 7-mile minimum for mountain bikes.	▪ Some non-bikers would support a separate trail system. ▪ Exclusions against some users already in place on certain trails.	▪ Not very often.	▪ Types of trails are good. Technically challenging, good mileage. ▪ FS is responsive.	▪ No opportunity to build more beginner trails. ▪ Some illegal trails that were not built well were made legal, but some well-built trails remain illegal.	▪ Wants more single use trails, but don't want to take away use from an existing trail. ▪ Single use trails should come from new trails being built, or adopting existing illegal trails.	▪ More beginner loop trails. ▪ Stacked/nested loop trails.
▪ Degradation of user experience. Getting overcrowded. Extremely heavy use. Need high-level experiences. Forest plan calls for 5-15 user encounters, but many days have 50-100 people on trail. ▪ Don't put more resources into Cathedral Rock or Bell Rock. Maxed out. Disperse people to different areas instead.	▪ Not a lot of people.	▪ First educate other user groups that there IS a problem. Discuss goals and expectations of different user groups.	▪ Conducts commercial bike tours himself. ▪ Jeep tours can be annoying (loudspeaker). ▪ Frustrated that we can't build trails because of disturbance to peregrine falcons, but sees helicopter tours in same area. Incongruous.	▪ FS seems to be responsive and progressive regarding trail design.	▪ Not enough funding, which seems ridiculous, considering visitation levels. ▪ Trail maintenance expectations should to be pushed onto volunteers (jobs/families).	▪ A mix. Need to add some single-use trails designed for a specific use.	▪ More trails, better connections, incorporating connections to dispersed camping areas.

Top Concern	Ideal Trail Experience	Supported Solutions	Commercial Activity	What Is Working	What's Not Working	Single or Multi-Use?	Ideal Outcomes
• Trail maintenance. • Doesn't want it to be a sea of signs. • Teach people how not to get lost. • Need new wilderness trails, and some bike specific trails.	• Solitude! • Use rock cairns, not just text based signage.	• Mountain bike specific trails (esp. Cockscomb/Aerie area) • When adding trails, do a package of new trails for all parties (wilderness AND biking area with jumps, etc.)	• Doesn't see a lot, but would like to do education-based guided hikes. • Business offers Sedona Trail Finder to visitors. Interactive technology that poses 5 questions to visitors to help them find the right hiking trail for their adventure.	• Best trail system in US. More trails with best accessibility. The system is well-kept, people respect it. Takes you to unique places.	• Trail maintenance • Need to have more rock cairns – people get off trail easily.	• We have two different types of trails already: wilderness and non-wilderness. • Doesn't feel that contentious here.	• Trail system is NOT broken. • Visitation and population is growing. Need a responsible growth and maintenance plan.
• Traffic • Trail user interactions • Bikers want more trails • Hikers don't expect someone to be there, and are startled.	• Prefer not to run into people. Work more than full time, so want to make sure I'm not wasting my time. Want to be confident where I'm going. Likes rating system.	• Need more options. Create more trails or update the ones we currently have.	• Commercial activity provides a chance for handholding, education on how to be a courteous trail user.	• Fantastic trail system. FS has been doing a lot of updating and expansion.	• No complaints. Supports closures and created trails. • Would like more trails of quality, not just trails for the sake of more.	• From bikers perspective, would love to see some single-use trails. Wilderness is viewed as single use trails, so bikers feel like they're getting the short end of the stick. • Has never seen a horse on the trail. One-way could be a solution for single use high-speed bike trails.	• More trails with good thought behind the trail design. Need more easy stuff for beginner mountain bikers. Lots of intermediate trails for mountain bikers.

Top Concern	Ideal Trail Experience	Supported Solutions	Commercial Activity	What Is Working	What's Not Working	Single or Multi-Use?	Ideal Outcomes
• Need to disperse users. • Mountain bikers need to become increasingly recognized as primary users of National Forests. • Only negative interactions are with locals.	• A variety. Not riding the same trail all of the time.	• Devil's Bridge: Should be a hiking-only trail that gets hikers off the current multi-use trail. • Post fast, steep downhill trails as one-way (for mountain bikers), and give the downhill rider Right of Way over hikers.	• Road to Chicken Point is eroded five feet in some places because of Jeep tours.	• 50+ miles of user-built trails adopted.	• Preferential treatment for trail adoption.	• If you took 25-30 miles of user-created trails and made them bike trails, that'd be awesome.	• Educate people that mountain biking is not a significant source of erosion.
• Overcrowding in certain areas (Bell Rock, West Fork, Cathedral Rock. Devil's Bridge) • Lack of ability to obtain commercial use permits (for races) • User conflicts • Sustainability of trails system	• As few people as possible, regardless of transportation mode! • Sustainability of trails (trail degradation takes away enjoyment of the trail user experience)	• Consider one-way trails (for all user groups). Doesn't eliminate traffic, but makes life a little easier. Feasible because we have lots of loops. • Consider mountain bike-specific area, with one-way trails.	• Not much. At the most sees 1-2 tours/month.	• All the new trail implement-tation. All are really high-end, Sedona trophy trails. And trails are pretty much empty (new ones).	• Red Rock Pass. Not enforced and not respected as a management tool. • Permits for trail races are a great way to bring in funding.	• Single use trails are bad; they exclude user groups.	• Increased commercial use. • Increased funding. • Can always add more trails.

Top Concern	Ideal Trail Experience	Supported Solutions	Commercial Activity	What Is Working	What's Not Working	Single or Multi-Use?	Ideal Outcomes
▪ Sustainability of trails. Anybody can go out there and scrape up some ground. Will there be resources to sustain that trail for years to come? Need a plan into the future. ▪ Yield issues	▪ Safety ▪ Good signage – tell people where they are and set expectations for what's involved. I don't want to get in over my head.	▪ People need to trust the FS expertise in creating trails. ▪ Better education with bike renters about etiquette on trails.	▪ Occasionally come across a large group of people. Stops and talks to them.	▪ Volunteerism. People care about the forest. ▪ Good Forest staff ▪ No litter on trail. People generally respect the forest. ▪ Come into contact with so many people enjoying themselves that it totally overwhelms any negativity.	▪ Issue in community that closed trails remain open to hikers. Made mountain bikers out to be bad people. ▪ Graffiti occasionally a problem. ▪	▪ Definitely multi-use	▪ Likes things the way they are ▪ Where there are huge challenges at spots on trails (boulders, etc), would be nice to have an option that's not as challenging. More options allow people to choose the safest experience for them.

Top Concern	Ideal Trail Experience	Supported Solutions	Commercial Activity	What Is Working	What's Not Working	Single or Multi-Use?	Ideal Outcomes
• Number of visitors • Staff and funds FS has to maintain trails • Proliferation of biker created trails that are now system trails • How recently added user-built trails got approved – bikers just got a slap on the hand. • Biker-created trails are too dangerous for horses	• A trail that is maintained has gorgeous views. • Love a loop. • Want to workout, be outside. • Not too many people.	•	• Never seen a biking tour. • Jeeps stay on roads.	• Bikers have gotten more and better trails – that works for them. • For hikers, beautiful trails and well maintained considering the resources and FOTF. • Volunteers really helpful	• Concern about how to maintain trails into the future • All in all, the system is working. The visitor has a marvelous experience.	• Multi-use trails. I don't want to be excluded. • There is a one-way bike trail already in existence	• To be able to maintain the trails we already have. • Trails are already very user-friendly, if you pay attention to the rules and don't go out too close to dark. • Agree strongly with the Red Rock Pass – would support another program like this.

Top Concern	Ideal Trail Experience	Supported Solutions	Commercial Activity	What Is Working	What's Not Working	Single or Multi-Use?	Ideal Outcomes
▪ Not a sufficient amount of trailheads that accommodate horse trailers. ▪ Want to see corners straightened out to increase line of sight. ▪ Lack of yield etiquette.	▪ Lots of good views, not too many people. ▪ If I do see people, I'd want them to be courteous. ▪ Also a loop trail. ▪ Bad attitudes and speed ruin my day.	▪ More signage. ▪ Everybody should yield to horses. One way on loop trails.	▪ Only Jeep tours – knows how to avoid them.	▪ Lots of absolutely beautiful trails. ▪ Can't take away beauty and solitude of the area. Can still listen to the quiet, and admire the environment.	▪	▪ Can't eliminate mountain bikes. ▪ Have to have non-motorized multi-use trails. Unfair to take the trail system away from any one user group.	▪ Have mountain bikers in their own area, so they don't disrupt other users. ▪ Take access away from mountain bikers in certain areas. I know this conflicts with what I just said. ▪ A sensible approach would be to create new trails specific to bikes (built by bikers). ▪ Larger trailheads for horse trailers.

Top Concern	Ideal Trail Experience	Supported Solutions	Commercial Activity	What Is Working	What's Not Working	Single or Multi-Use?	Ideal Outcomes
▪ User conflicts	▪ A route I've ridden before, and can ride well. ▪ If I can ride and not be constantly adjusting my experience to someone else's, then that's a better experience for me.	▪ Experiment with new user-specific trails (one for each type). Can always open them up to multi-use if necessary. ▪ Event-specific trail (for races) ▪ The Chuckwagon trail is used by all users to get to destinations. It's already become braided. FS bureaucracy already allows for a 30-foot clearance, so we should split trail there into two to accommodate hikers and bikers traveling separately.	▪ None	▪ Recreation program is finally recognized as the most important in the area.	▪ Overcrowding. "We're trying to put 10# of cat litter in a 5# bag."	▪ If correctly designed, a multi-use trail can be good.	▪ From here on out, focus on the user experience and design trails for that. ▪ Advances in technology have changed user expectations. Fads in running and equestrian use change, too. FS should be nimble enough to adapt to that.

Top Concern	Ideal Trail Experience	Supported Solutions	Commercial Activity	What Is Working	What's Not Working	Single or Multi-Use?	Ideal Outcomes
▪ Bikes are a silent menace. They're on you before you know it. Wish they would wear a bell. ▪ People are getting lost because they take social trails created by bikers.	▪ Any day here is a good one. ▪ Red rocks, wilderness. ▪ Very quiet, not too many hikers.	▪ Education – orientation (how to get people to pay attention to signs?)	▪ Occasionally	▪ Trail is working beautifully. 300 miles of trail and 37 trailheads. ▪ FS is accepting new trails. ▪ FOTF has two volunteer trail crews.	▪ People being ill-prepared	▪ Need to stay with multi-use. Hikers like to use the biker-created trails.	▪ Stop people from going off the trail. ▪ Don't create trails that cause people to get lost.
▪ Multiple problems. ▪ Incredibly high usage. ▪ Illegal trail construction by mountain bikers — FOTF blocks off new trails as they are being built. ▪ Trail maintenance ▪ People getting lost on social trails (FS refuses to sign non-system trails), so need to educate. ▪ Mountain bikers bully the FS into accepting a trail once it's already there (but they built it themselves and then use the excuse that people are using it)	▪ Great views, well marked and easy to follow trail that goes to a nice place. ▪ Nice when there's a loop.	▪ A continuous process of nominating and adding new trails ▪ There would be reasonable support for changing yield rules and designating trails as mountain bike trails (with warnings to hikers)	▪ Very small percentage of commercial biking and hiking tours are doing it illegally	▪ Immensely popular ▪ Variety of people have gotten involved and help monitor	▪ There appears to be absolutely no impact on reducing off-trail travel and illegal construction. ▪ Have been unable to block off trails (people steal signs)	▪ Have polled FOTF members. Vast majority of members would be in agreement that some trails are best for biking only. ▪ FOTF thinks that the FS should have technical sections for mountain bikers only. ▪ There will always be people who break the rules. ▪ With one-way traffic, there are ignorant people who won't pay attention, and people who break the rules on purpose.	▪ Possibly some additional loops and connector trails. ▪ Prevent or stop illegal trail construction. ▪ Education of all users about issues of going off trail (inadvertent or not) – erosion, people getting lost.

Top Concern	Ideal Trail Experience	Supported Solutions	Commercial Activity	What Is Working	What's Not Working	Single or Multi-Use?	Ideal Outcomes
• More visitors, more people on trails, more damage to trails • Lot of little side trails are a concern.	• Not see damage done by people going off trail (usually bike tracks, sometimes horse tracks). •	• Education, self-policing (within user groups), then restrictions. • No support for cross country travel restrictions on hikers.	•	•	•	• Am open to extreme sections for mountain bikes only. Beginning bikers need a place to go. But for the most part, I support multi-use.	• Increased connectors add increased functionality without adding too many miles.
• Beginner mountain bike trails • Need more trails like Bell Rock Pathway (which gets the most casual visitors), and access for disabled folks. Should only add trails that are appropriate.	• Good signage, well-maintained trails. • Social trails: need to accept them or obliterate them.	• Remote water sources for trail users. Businesses could sponsor that. • Local businesses would be willing to contribute to increased or improved signing of trails.	• We work with 360 Adventures (permitted to offer tours). Will pursue getting my own guiding permit once that process opens up again.	• Having a mountain biker on FS staff helps the agency relate/understand.	• Not enough stuff for beginners (hiking and biking) • Inability to create new trails or make old trails easier	• Big mistake to make it single use. Only exception would be an ADA trail – should be single use.	• Easier trails and signage • Communication amongst user groups

Top Concern	Ideal Trail Experience	Supported Solutions	Commercial Activity	What Is Working	What's Not Working	Single or Multi-Use?	Ideal Outcomes
▪ Parking is hard to accommodate an RV or trailer. ▪ Seeing a lot more mountain bike traffic on trails	▪ Not too hot. Ha ha. ▪ Courteous people. Everyone sharing the trail together. ▪ Leave your ego at the trailhead	▪ Bike shops and organizations should be doing more education about etiquette and yielding	▪ Doesn't know of any	▪ We're able to get out and use these trails. ▪ Trails are in very good shape. ▪ Every now and then there is a maintenance issue. Depends on the weather. ▪ Occasionally get to add new trails.	▪	▪ Combination. ▪ Okay with some trails restricted to horses. (as is, some multi-use trails are too crowded or not safe) ▪ At least two groups should be able to have access ▪ With bike-only trails, you still have bikers of different abilities who present obstacles. Can see bike only, one way restrictions someday progress to requiring high skill level of mountain bikers only. Where does it end? Might reduce your expectation that there might be an obstacle.	▪ Not too crowded. Always enough trails for people to spread out.

Top Concern	Ideal Trail Experience	Supported Solutions	Commercial Activity	What Is Working	What's Not Working	Single or Multi-Use?	Ideal Outcomes
▪ Bikers still don't have a full menu of trails. ▪ A lot of equestrian use on trails – causes damage to trails. ▪ Maintaining trails.	▪ No trail damage by horses. ▪ Avoiding the most heavily used trails. ▪ 3-4 hour duration, running into 6-8 other hikers at the most.	▪ Equestrian-specific trails, with trail maintenance participation by equestrians ▪ Bikers need to announce their presence before they come up on hikers. ▪ Increased education about interacting with other users. ▪ Create a new yield system.	▪ Minimal	▪ Good on-trail relationships between hikers and bikers.	▪ Equestrian damage and lack of maintenance participation ▪ Continuous need to improve signage	▪ Likes the current system, but wants equestrians on their own trails. ▪ Suggests making area for equestrian use – possibly on Lime Kiln trail, which has more open terrain. Also trails in Dry Creek Basin that go through meadows.	▪ All users are happy. Don't see the need for more trails into an area just to access an area (with rare exceptions like House Mountain, which features open landscape with basalt. Bikers want connector trails here, no problem with that). Any trails south of House Mountain would be good for equestrian use. Hikers and bikers don't use them.

APPENDIX C: Estimated Implementation Costs for some actions

Note: Dollar amounts are rough estimates only, to be used for budget-planning purposes only. Estimates provided courtesy of Julie Ray Creative, Tucson, AZ , julieraycreative.com, 520.891.8098

ITEM	EXAMPLES	DESIGN COSTS @ $85/hr	PRINTING or FABRICATION	ADVERTISING PLACEMENT
Logo Design		$850 - 1250		
Tagline/Key Messaging		$1275-1700		
Web-based Media	banners	$850-1275		$50-70 per 20,000 CPM
	website design	$3400-12,000		
Social Media	integration, marketing	$1275-1700		
Print Advertising	brochure	$850-1275	$200-250 (per 1,000)	
	standard-size flyer	$680-850	$200-250 (per 1,000)	
	rack card	$680-850	$100-200 (per 1,000)	
	ad (magazine, newspaper)	$680-850		$200-500 per week
Outdoor Advertising	bus stop ad	$1275-1700		$200-5000 per week
	kiosk poster*	$1020-1275	$2000-3000 (per 50)	
	infographic signage (e.g., trailhead signs)*	$1700-2125	$80 per sq. foot**	
	vehicle wrap	$2550-3400	$2500-4000	
	vinyl banner	$1020-1275	$100-250	
	billboard	$1700-2125		$1,500-25,000 per week
	Kiosk structures		$10,000-$15,000***	

* Basic-quality posters only; estimate a 6-month lifespan for outdoor kiosk use

** high-pressure laminate--the best material for rugged outdoor conditions

*** includes design, fabrication, and installation